

# Hong Kong Baptist University

## School of Continuing Education



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Finson Lam  
Project Director  
BAP Technology Consultants Ltd.

### Solution

- [Grandview CNV Series](#) motorized projection screens
- [Extron IN1608xi](#) eight input HDCP-compliant scaling presentation switcher
- [Extron DXP 44 HD 4K Plus](#) 4x4 4K/60 HDMI matrix switchers with 2 audio outputs
- [Extron Flex55](#) AV connectivity mounting solution
- [Extron DTP HDMI 4K 230](#) HDMI twisted pair extender
- [Extron DMP 128 Plus C](#) ProDSP processor w/AEC
- [Extron DMP 64](#) 6x4 ProDSP processor
- [Extron XPA U 1002-100V](#) two channel amplifier, 100 watts at 100 volts
- [Extron XPA U 1002](#) two channel amplifier, 100 watts at 8 or 4 ohms
- [Extron HDMI Ultra, MVGA-A-M](#), HDMI DVI-D cable solution
- [Extron IPCP Pro 350 & IPCP Pro 250](#) IP Link Pro control processors
- [Extron TLP Pro 525T](#) 5" touch panel control
- [TeamMate](#) bespoke desking solution

Audio visual upgrades to the 56 classrooms in David C Lam Building and Madam Chan Wu Wan Kwai SCE Tower which locates at Kowloon Tong Campus of Hong Kong Baptist University – School of Continuing Education.

The project was borne out of the need to upgrade the functionality and performance of the existing system. Most of the components are replaced with new devices while projectors, speakers and microphones remain the same. The existing devices will be further upgraded in the next phase.

### Design Concept

The upgrade design shall be “future-proofing”, which means the creation of new backbone system can easily incorporate new developments in technology. “In an era of ever-changing technology, some actions can be taken to give the project the best possible chance at withstanding a technological revolution. One of these is to install systems and equipment from suppliers and manufacturers that are sure to be at the forefront of technological innovation for years to come, in this case which is Extron and TeamMate”, says Marco Tang, Director of Sale, BAP.

## Challenges

### System Upgrade

Existing projectors and speakers come in different models and grades. When designing the upgrade system, we need to make sure all existing devices can be fully integrated to the new system. In addition, not all the 56 classrooms using the same grade of PC, some with lower resolution, some without digital output. In order to make sure every component can be integrated into the new system, extra time and resources have to be made in comparison with building a new system. In a new-build scenario, we build the system on land which gives us the opportunity to test it as much as we can before installation. This cuts down fault-finding during commissioning. Upgrade projects often don't allow this if we are using some existing hardware, which makes commissioning process longer than ever. As a result, we walk through the 56 classrooms one by one and record each existing device in details for in-house thorough compatibility test.

### Aggressive installation schedule

The 56 classrooms need to be completed in two weeks, including installation, integration, assembly, programming, debugging and testing & commissioning. Finson Lam, Project Director of BAP, says: "There are certain steps that can be taken to make any installation more efficient. Doing what we can ahead of time maximizes what we can achieve during the upgrade." Finally, all the classrooms can be completed before semester commencement in September 2019.



Fundamentals Twin Desk



Fundamentals Corner Desk



Fundamentals I Desk



### Bespoke Desking Solution

The University already used a bespoke wooden desk throughout and wanted to keep to a similar design for the upgrades. The new desk needed to be far more durable and functional to meet the demands of the upgraded AV system. Normally, lead time for a bespoke furniture solution takes 5 - 6 months, from design, mock-up evaluation, production, commissioning, packaging to overseas shipping. In this project, we only have 2.5 months to do so. Collaboration is essential between the clients, the factory and the system integrator to meet the deadline. The trust between each party became the enzyme of process. As a professional integrator, we always keep in mind about what the client doesn't like about the current furniture and what features they value the most because that often tells us more than asking what they want from a new furniture. Furthermore, effective communication channel is a must to expedite the design phase. "Each time a design was proposed, feedback was given back quickly to allow TeamMate to adapt and modify various details to ensure the client was satisfied with the final result," comments Sam Botting, Marketing & Business Development Manager of TeamMate.

## Audio & Video System

The AV signal processing, switching and distribution system are centered on Extron solution. Extron DMP 64 and DMP 128 Plus C audio DSP processor provided high performance signal processing for program audio and microphone feeds. It fed existing ceiling and box speakers with XPA U 1002 amplifiers.

Video signal path relies on an IN1608 xi eight-input presentation switcher with DTP® twisted pair extension for most classrooms and a DXP 44 HD 4K Plus HDMI matrix switcher for dual projection classroom. DTP HDMI 4K 230 Rx receiver mounted above the projector accepts video signals for projection onto Grandview motorized projection screens. Flex55 provides flexible connectivity solution for HDMI, VGA and audio in a secure housing on the table.

## Control

Each classroom includes an Extron TLP Pro 525T 5" tabletop touch panel control on the tabletop. The control system is configured with easy navigation in mind because teachers require a user-friendly way to operate the AV system. "The AV system user interface has to be the same or very similar between rooms to ensure teachers have familiar control capabilities regardless of room type", says Finson Lam.

IPCP Pro 350 & IPCP Pro 250 IP Link® control processors act as the brains of the control system, processing commands and routing communications quickly and efficiently. To minimize clutter and keep the technology out of sight, the control processor is hidden within TeamMate teaching desk.



## Desking Solution

There are 3 different designs of steel teaching desks to cover the varying room types. 46 of the rooms had a standard desk comprising of a 19" 15U rack enclosure with an additional 3U lockable pull out draw and an outrigger extensions module for sitting under. The desks had front and rear rack access with removable panels and completed with a custom cut-out for a PC. Each worktop is finished in Formica Tropical Blue Matte laminate with black armour edging to suit the aesthetics of the rooms.

Twin Desks were then specified for x4 of the rooms, each with a central tower PC compartment, a 19" 10U equipment rack and 3U lockable draw. The Final x6 rooms comprised of a corner desk which included a R375 curved rear shroud to form the corner. Each of the desks had to have fixed feet installed to deter users from manoeuvring the desks away from its original position.

## Result

### 56 Efficient Classrooms with System Consistency and User Friendliness

With Extron & TeamMate advanced solutions, the “future-proofing” system design provides system consistency and user friendliness to the Hong Kong Baptist University. “Simplicity is the key,” narrates Finson Lam. “System consistency provides reliability and stability for better handling of system maintenance and support while user friendliness reduces learning time for teachers to use the new system which minimizes impact to teaching quality.”

“BAP’s excellent understanding of classroom requirements along with their highly experienced and capable project team, perfectly piecing together Extron’s systems including audio/video processing to distribution and central control system. This led to an expected result of a very successful implementation of 56 efficient and truly useful classroom systems,” says Ming Lam, Business Development Manager of Extron.

